STATEMENT OF LEGAL AND FACTUAL BASIS

Hercules Inc.
1111 Hercules Road
Hopewell, Virginia
Permit No. PRO-50363

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Hercules Inc. has applied for a Title V Operating Permit for its Hopewell, Virginia facility. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Engineer/Permit Contact:_____ Date:_____

Air Permit Manager:_____ Date:_____

Deputy Regional Director:_____ Date:_____

FACILITY INFORMATION

Permittee/Facility
Hercules, Aqualon Division
P.O. Box 271
Hopewell, Virginia 23860

Responsible Official
James J. Reyher
Plant Manager

Facility Contact
Gleness R. Knauer
Environmental Engineer
804-541-4485

County-Plant No.: 041-0003

SOURCE DESCRIPTION

SIC Code 2869 – Hercules Incorporated, Aqualon Division operates a manufacturing facility in Hopewell, Virginia. A variety of cellulose products used in the production of a wide range of consumer products and product packaging are manufactured at the facility.

COMPLIANCE STATUS

The facility is inspected once a year. The facility reports that they are currently in compliance with all applicable requirements. This is confirmed by the latest inspection, dated 9/30/2002, where the facility was judged to be in compliance at the time of the inspection.

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

Equipment to be operated consists of:

Operation Producing Emissions	Emission Point/ Unit No.	Pollution Control Device	Equipment Location No. (Account)	Equipment to be Operated	Equipment Location No. (Account)
CMC Cellulose Preparation Area CMC Capacity: 26,500 tons/yr	CM-ACD-001	Cellulose Bin (Flexkleen) Baghouse	2151 750927	Conveyance System Including: Shredders, Primary&Secondary #1 #2 #3 #4 Vent Intake Filters (4)	 2064 550204, 550013 550194, 550191 550192, 550226 550196, 550223 2064

Operation Producing Emissions	Emission Point/ Unit No.	Pollution Control Device	Equipment Location No. (Account)	Equipment to be Operated	Equipment Location No. (Account)
					750916
					750917
					750918
					750919
				Cellulose Weigh Bin	2151 801315
				Cellulose Weigh Bin	2151 801316
				Bin Vent Filter	2151
				Cellulose Weigh Bin	2151 (as above)
				Bin Vent Filter	2151
				Cellulose Weigh Bin	2151 (as above)
	CM-ACD-002	Vacuum System Filter	2064 750166	Housekeeping Vacuum System	2064
	CM-ACD-003	Zero Point Filter	2151 751402	Conveyance System Including Cyclone	2151 2058
CMC Treatment Reaction and Purification	CM-ACD-004	Mix Tank Scrubber	2058 010245 (located at 2165)	MCA/IPA Mix Tank T-231	2165 801694
	CM-ACD-005	A/C Loading Scrubber	2058 010239	Alkali Cellulose Vessels	2058
				301	700109
				302	700110
				303 (through pre-mixers #1 & #2)	700112 600006, 600374
	CM-ACD-006	"A" Building Vent Scrubber	2058 010240	Common Header	2058
				Alkali Cellulose Vessels	2058 (as above)
				Reaction Vessels (3)	2058
					700036
					700043
					700013
				Hold Tubs	2058
				401	801579
				402	801580
				Reslurry Tubs	2058
				410	801573
				411	801574
				412	801576
				413	801578
				414	(none)

Operation Producing Emissions	Emission Point/ Unit No.	Pollution Control Device	Equipment Location No. (Account)	Equipment to be Operated	Equipment Location No. (Account)
				Centrifuges, seals	2058
				410	770030, 750071
				411	770034, 750347
				412	770016, 750554
				413	770045, 750223
				414	770041, 751042
				Caustic/IPA Mix Tanks	2058
				#1	801567
				#2	801568
				Caustic Scale Tank	800059
	CM-ACD-007	Oxygen Scrubber	2058 010241	Reaction Vessels (3) (when peroxide is being added or there are high N_2 flows)	2058 (as above)
CMC Dryers	CM-ACD-201	West "B" Building Scrubber	2059		
				Dryer Overhead System	2059
				#3 Wet Dust Collector	750320
				Dryer No. 3	400035
				#4 Wet Dust Collector	750321
				Dryer No. 4	400030
				Centrifuges, seals	2059
				#5	770005, 750064
				#6	770008, 750067
				Blend Tubs (4)	2059
				#5	800712
				#6	800713
				#7	800714
				#8	800715
	CM-ACD-202	Zero Point Filter	2059 750767	Nos. 3 and 4 Dryer Unloading System	2059
	CM-ACD-203	East "B" Building Scrubber	2059	Dryer Overhead System	2059
				#5 Wet Dust Collector	750266
				Dryer #5	400026
				#6 Wet Dust Collector	750979

Operation Producing Emissions	Emission Point/ Unit No.	Pollution Control Device	Equipment Location No. (Account)	Equipment to be Operated	Equipment Location No. (Account)
				Dryer #6	400028
				Centrifuges, seals	2059
				#7	770018, 750068
				#8	770021, 751044
				Bend Tubs (2)	2059
				#9	800575
				#10	800576
	CM-ACD-204	Zero Point Filter	2059 750678	Nos. #5 and #6 Dryer Unloading System	2059
CMC Finishing and Packaging	CM-ACD-301	D.C. = Dust Collector Storage Bin Vent Filter Header	2075	Dryer Storage Bins/filters (8)	2075 800836 751295 800837 751297 800838 751296 801036 751291 800513 751290 800514 751292 800515 751294 800516 751293
	CM-ACD-309	No. 1 Mill Feed D.C.)	2173 751221	Mill Feed Conveyance	2173
	CM-ACD-310	No. 2 Mill Feed D.C.)	2173 751222	From Dryer Storage Bins	
	CM-ACD-311	Regrind Mill Feed D.C.)	2173 751223	Or the Addback Station	
	CM-ACD-312	No. 1 Mill Product D.C.	2173 751224	No. 1 Mill	2173 801665
	CM-ACD-313	No. 2 Mill Product D.C.	2173 751225	No. 2 Mill	2173 801664
	CM-ACD-314	Regrind Mill Product D.C.	2173 751226	Regrind Mill	2173 801636
	CM-ACD-315	Air Mix Blender D.C.	2173 751228	No. 1 Air Mix Blender	2173 801660
	CM-ACD-316	Air Mix Blender D.C.	2173 751229	No. 2 Air Mix Blender	2173 801662
	CM-ACD-317	Custom Blender D.C.	2173 751227	Custom Blender	2173 600400
	CM-ACD-318	Vacuum D.C.	2173 801673	Housekeeping Vacuum, Fan	2173 110756
	CM-ACD-319	Aspiration D.C.	2173 751230	Aspiration Fan	2173 140166
CMC Tank Storage	CM-ACD-400	MCA Tank Scrubber (former Sewer Scrubber)	9013	MCA Storage/Scale Tanks T-811	
	CM-TNK-401			T-812	9013 801616
	CM-TNK-402			T-813	9013 801710
	CM-TNK-403				9013
	CM-ACD-404	Acetic Acid Scrubber	2113	Acetic Acid Storage Tank	
	CM-TNK-405				2113 800518
				Methanol Spent Tanks (6)	
	CM-ACD-406	Field Tank Vent Scrubber	9106 10009	T-4	9106

Operation Producing Emissions	Emission Point/ Unit No.	Pollution Control Device	Equipment Location No. (Account)	Equipment to be Operated	Equipment Location No. (Account)
	CM-TNK-407			T-9, Solvent Swing	800174
	CM-TNK-408			T-14	800486
	CM-TNK-409			T-25B	800824
	CM-TNK-410			T-26B	800506
	CM-TNK-411			T-28B	800507
	CM-TNK-412			Methanol Reuse Tanks (3)	
				T-26A	9106
				T-27A	
	CM-TNK-413			T-27B	801313
	CM-TNK-414			IPA Spent Tank T-12	801312
	CM-TNK-415			IPA Reuse Tanks (3)	
	CM-TNK-416			T-23B	9106 800486
				T-24A	9106
	CM-TNK-417			T-24B	
	CM-TNK-418			Methanol Fresh Tanks	801311
	CM-TNK-419			T-13	
				Brine Tank T-921-1	9106
	CM-TNK-420			Fresh IPA Tanks (2)	800487
	CM-TNK-421			T-7	9106 801607
				T-8	9106
	CM-TNK-422				800177
	CM-TNK-423			Hydrogen Peroxide	800178
				Storage Tanks (2)	
		Vent to Atmosphere			9106
	CM-TNK-424			Hydrogen Peroxide Mix	800128
	CM-TNK-425			Tanks for Reactors (2)	800917
		Vent to Atmosphere			
	CM-TNK-426				
	CM-TNK-427				
CMC Solvent Recovery	CM-ACD-501	Tank Farm Vaporsphere	9106 010009	C Stills Area, 3 Columns	2062
				B-3 IPA	010083
		Scrubber		C-1 Stripper	010037
				C-2 Separator	010038
				C-3 IPA	010062
				D Stills Area, 2 Columns	2132
				D-1 Stripper	
				D-2 Separator	010113
					010114
Natrosol Cellulose Preparation (shared with Klucel)	NA-ACD-001	Cellulose Bin Dust Collector (Pulsaire)	2117 750246	Conveyance System Including:	
				Shredders,	2114
				Primary&Secondary	
				#1	550197, 550096
				#2	550190, 550225

Operation Producing Emissions	Emission Point/ Unit No.	Pollution Control Device	Equipment Location No. (Account)	Equipment to be Operated	Equipment Location No. (Account)
				#3	550193, 550224
Natrosol Capacity: 21,900 tons/yr				Vent Intake Filters (3) (Flexkleens)	2114 750920 750921 750922
				Shredder, Condux	2113 550243
				Cellulose Weigh Bins	2117
				#1 T111	800564
				#2 T112	800483
	NA-ACD-002	Vacuum Dust Collector	2114	Housekeeping Vacuum	2114
	NA-ACD-003	Zero Point Filter	2117 (none)	Conveyance System Including Cyclone	2101
Natrosol Reaction, Purification, and Drying	NA-ACD-101	Solvent Vent Scrubber	2101 0110193		
				Batch Reactors (4)	2101
				#1	700098
				#2	700097
				#3	700093
				#4	700117
				[fed by Pre-Mixers (2)]	2101 800462 801353
				Viscosity Reduction Vessels (VRVs)	2101
				#1	700006
				#2	700007
				#3	700013
				#4	700052
				#5	700069
				Hortensphere	2100 800341
				Caustic/TBA MixTanks	2101
				#1	800462
				#2	801353
				Reactors (4)	2101 (same/above)
				Hold Tubs	2101
				1	800962
				2	800878
				Reslurry Vessels (2)	2101
				#1	800963
				#3	800488
				Centrifuges (5)	2101
				No.1	750076

Operation Producing Emissions	Emission Point/ Unit No.	Pollution Control Device	Equipment Location No. (Account)	Equipment to be Operated	Equipment Location No. (Account)
				No.2	750075
				No.5	751045
				No.6	751043
				No.7	750958
				Washer, AllisChalmers	2101 010059
				Turbilizer	2101
				Drag Chain	2101
				VRV (5)	2101 (same/above)
				Dump Tanks (2)	2101
				1	801356
				2	801357
				Blend Tubs	2101
				1	800960
				2	800044
				3	800489
				4	800879
				Centrifuges	2101
				No.3	750072
				No.4	750069
				TBA Head Tank	2101
				(2) Vacuum Pump Separator Systems [By way of Vacuum Pumps (3), Condensers (primary and secondary), Separator, Cyclone, Wet Dust Scrubber, Sock Cages, Dryers, and Vent Condenser]	2101 140158, 140167, 140165
	NA-ACD-103	Dryer Unloading Zero Point Filter	2101 750765	Dryers (2)	
				#1	2101
				#2	400159
				Conveyance System	400025
				Including Cyclone	2101 750662
Natrosol Grinding, Blending and Packout	NA-ACD-201	D.C. = Dust Collector South Knockdown Tower	2104	D.C. = Dust Collector South Mill System D.C. Dust Collectors (3)	2104
				DSB D.C.	750955
				North Mill D.C.	750961
				South Mill D.C. Mills (2)	750672
				South Mill	550201

Operation Producing Emissions	Emission Point/ Unit No.	Pollution Control Device	Equipment Location No. (Account)		Equipment to be Operated	Equipment Location No. (Account)	
					North Mill		550200
					Pulverizer Dryer Storage Bins (4)		
					#1		800117
					#2		800062
					#3		800511
					#4		800875
	NA-ACD-202	East Knockdown Tower	2104		East Mill System D.C. (2) Dust Collectors (2)		
					West D.C.		750578
					East D.C.		750579
					Mills (2)		
					West Mill		550141
					East Mill		550140
					Pulverizer Dryer Storage Bins (4)		(as above)
	NA-ACD-203	Zero Point Filter	2104	750304	BSB Bottom Cyclone #2	2116	750306
	NA-ACD-204	Zero Point Filter	2104	750859	BSB Top Cyclone #4	2116	750857
	NA-ACD-205	Zero Point Filter	2104	750303	West Cyclone	2104	750305
	NA-ACD-206	Zero Point Filter	2104	750860	Southeast Cyclone	2104	750858
	NA-ACD-207	Zero Point Filter	2104	750620	East Cyclone	2104	750621
	NA-ACD-208	Zero Point Filter	2104	750632	North Packout Cyclone	2104	750631
	NA-ACD-209	Addback Dust Collector	2104		Addback Hopper	2104	
	NA-ACD-210	#1 Airmix D.C. (N)	2104	750571	No.1 Airmix Blender N	2104	600165
	NA-ACD-211	#2 Airmix D.C. (S)	2104	750848	No.2 Airmix Blender S	2104	600210
	NA-ACD-212	Secondary Vacuum D.C.	2104	750636	Primary Vacuum Separator	2104	750635
Natrosol Tanks	NA-ACD-301	EO/PO Scrubber	8575	010255	Pressure Bleed for EO Storage/Transfer System Inerting	8575	
	NA-TNK-330				EO Storage Tank T-130	9108	800527
	NA-ACE-101	Solvent Vent Scrubber			Vent Header Hortensphere	2100	800341
	NA-TNK-341				Spent TBA Tank T-41	9101	801393
	NA-TNK-347				Reuse TBA Tank T-47	9101	800114
	NA-TNK-340				Fresh Acetone Tnk T-40	9101	800110

Operation Producing Emissions	Emission Point/ Unit No.	Pollution Control Device	Equipment Location No. (Account)	Equipment to be Operated	Equipment Location No. (Account)
				Fresh TBA Tanks (2)	9101
	NA-TNK-342			T-42	800112
	NA-TNK-343			T-43	800113
	NA-TNK-344			Spent Acetone Tk T-44	9101 800842
				Reuse Acetone Tnks (2)	9101
	NA-TNK-348			T-48	800115
	NA-TNK-349			T-49	800490
	NA-TNK-345			Weak Acetone Tk T-45	9101 800210
		Atmospheric Venting			
	NA-TNK-300			Nitric Acid Tank	
				Caustic (NaOH) Tks (2)	9101
	NA-TNK-313			#1	801613
	NA-TNK-363			#2	801363
	NA-TNK-339			Hydrogen Peroxide	2100
				Storage/Scale Tank	800039
		Blow Tank Stack	2101	Emergency Relief	
	NA-TNK-370			Reactor Blow Tank	2101 80
	NA-ACD-375	Carbon Bed Absorber	2101	NBGE Totes	2101
Natrosol Solvent Recovery	NA-ACD-302	Hortensphere [Vents to atmosphere on startup)	2100 800341	Distillation Columns (3)	2106
				#1 Acetone	010057
				#2 Acetone	010060
				TBA Still	010190
Klucel Cellulose Preparation (shared with Natrosol)	KL-ACD-001	Cellulose Bin Baghouse (Pulsaire)	2131 750633		
				Conveyance System Including:	
				Shredders, Primary&Secondary	2114
				#1	550197, 550096
				#2	550190, 550225
				Vent Intake Filters (2)	2114
Klucel Capacity: 2,300 tons/yr				(Flexkleens)	750920
					750921
					750922
					2114 550243
				Shredder, Condux	2131 800890
				Cellulose Weigh Bin	
	KL-ACD-002	Zero Point Filter	2131 (none)		2130
				Conveyance System	750351
				Including Cyclone	
	NA-ACD-002	Vacuum Dust Collector	2114 (none)		2114 (none)
				Housekeeping Vacuum	
Klucel Reaction,	KL-ACD-101	Process Scrubber	2130 750359		
				Secondary Condenser	2130 280421

Operation Producing Emissions	Emission Point/ Unit No.	Pollution Control Device	Equipment Location No. (Account)	Equipment to be Operated	Equipment Location No. (Account)
Purification, and Drying				Primary Condenser	280882
				#2 Reactor	700119
				Wash Tubs	
				#1	800599
				#2	800944
				Centrifuge	
				#1	750660
				#2	750676
	KL-ACD-102	Venturi Scrubber or Atmospheric Venting	2130 (none)	Ambergum Mix Tank	2130 700044
	KL-ACD-103	Acetic Acid Scrubber (packed tower)	2130 (none)	Acetic Acid Head Tank And Transfer System	2130 800607
Klucel Grinding and Finishing	KL-ACD-201	Common Header Vent	2133		
		#1 Blender Dust	750701		
				#1 Airmix Blender	2133 600203
		Collector	750702		
		#2 Blender Dust		#2 Airmix Blender	2133 600204
		Collector	(none)		
		#3 Blender Dust		#3 Airmix Blender	2133 600292
	KL-ACD-202	Collector	2133 751270	Addback Hopper(Blender)	2133 600200
		Process Dust Collector		and Packout Station	
	KL-ACD-203		2133 (none)	Housekeeping Vacuum	2133 750688
		Housekeeping Dust Collector			
Klucel Tanks	KL-ACD-301	Process Vent Scrubber			
				Vent Pre-condenser	9112 281085
	KL-TNK-308			Fresh TBA Tank T-8	9101 800253
				Fresh Heptane Tanks	9101
	KL-TNK-307			T-7	800257
	KL-TNK-337			T-37	801466
	KL-TNK-322			Spent Tank T-22	9101 801056
	KL-TNK-306			Extraction Feed Tk T-6	9101 800254
	KL-TNK-309			Distillation Feed T-9	9101 800255
	KL-ACD-302	EO/PO Scrubber	8575 010255	Pressure Bleed for PO	8575 (none)
				Storage/Transfer System	
				PO Storage Tank	
	KL-TNK-363			PO Scale Tank	9112 800596

Operation Producing Emissions	Emission Point/ Unit No.	Pollution Control Device	Equipment Location No. (Account)	Equipment to be Operated	Equipment Location No. (Account)
				Pressure Bleed for PO Railcar and Railcar Transfer System	
	KL-TNK-303	Blow Tank Stack		Emergency Relief Reactor Blow Tank	9112 801463
		Atmospheric vents		Peroxide Storage Tank	9112
	KL-TNK-350			Peroxide #1 Head Tank	800750
	KL-TNK-364			Peroxide #2 Head Tank	801464
	KL-TNK-368			Caustic Scale Tank	800608
	KL-TNK-362			Caustic Storage Tank	801462
	KL-TNK-365				801465
Klucel Solvent Recovery	KL-ACD-401	Vent Scrubber	2129 750359	Distillation Column	8617 010056
EC Cellulose Preparation	EC-ACD-001	Cyclone (open top)	2111 750199	Cellulose Shredders and Transfer Line	2048
				#1 South	550031
				#2 North	550032
EC Reaction and Purification	EC-ACD-101	Vent Scrubber System	2111 750175	Building Vapor Scrubber Autoclaves (Reactors)	2111
				#12	700082
				#13	700081
				#11	700075
		Vent to Atmosphere		Leach Tubs (2)	2111
EC Capacity: 3,500 tons/yr				#8	800432
				#9	801283
				Wet Mill	2111 550084
				Wash Tubs (3)	2111
				#18	800430
				#19	800431
				#20	801457
				Dryer Centrifuges (2)	2155
				#2	750081
				#3	750196
EC Drying and Finishing	EC-ACD-201	Wet Scrubber /Vent to Atmosphere	2155 751055	Vacuum Dryers (2)	2155
					400012
					400013
	EC-ACD-202	Dryer Unloading Zero Point Filter	2155	Dryer Unloading System	2155
				Cyclone	
				Screener	751068
				Pulverizer	550216

Operation Producing Emissions	Emission Point/ Unit No.	Pollution Control Device	Equipment Location No. (Account)	Equipment to be Operated	Equipment Location No. (Account)
				Tote Loading System	420564
	EC-ACD-203	Blender Zero Point Filter (filter receiver)	2155 751056	Air Mix Blender	2155 600167
				Dust Collector	751062
	EC-ACD-204	Vacuum Dust Collector Zero Point Filter	2155	Packaging	2155
				Tote Unloading System	420564
				Bag Packer	420569
				Housekeeping Vacuum	140155
EC Tanks	EC-ACD-101	Vent Scrubber System		Bldg Vapor Scrubber	2038 750175
	EC-TNK-301			Ether Tank	9105 800474
	EC-TNK-302			Ethanol Tank	
				Low Wine Storage Tanks	9105
	EC-TNK-322			T-22	800222
	EC-TNK-324			T-24	800224
	EC-TNK-325			T-25	800227
	EC-TNK-327			T-27	800434
				Low Wine Feed Tank,	9105
	EC-TNK-310			T-10	800474
	EC-TNK-315			T-15	800215
				EtCl Storage Tanks	
	EC-TNK-321			T-21, Recovery	
	EC-TNK-326			T-26, Recovery	800226
	EC-TNK-328			T-28	
				EtCl Scale Tanks	
	EC-TNK-349			North	800949
	EC-TNK-348			South	800948
				Low Wine Pressure Tks	2057
	EC-TNK-345			#1 South	800145
	EC-TNK-346			#2 North	800146
		Atmospheric Vents		NaOH Scale Tanks	
	EC-TNK-334			T-34	2038 800394
	EC-TNK-335			T-35	2038 800395
	EC-TNK-343			T-43	9333 801119
	EC-TNK-306			T-6	2111
		Atmospheric Vents		NaOH Storage Tanks	
	EC-TNK-SC1			Spent Caustic	9105 800438
	EC-TNK-340			T-40	9333 800240
	EC-TNK-341			T-41	9333 800241
	EC-TNK-358			T-58	9105 801294
	EC-TNK-359			T-59	9105 801295
	EC-TNK-354			T-54	9105 800154
	EC-TNK-355			T-55	9105 800155
	EC-TNK-351			T-51	

Operation Producing Emissions	Emission Point/ Unit No.	Pollution Control Device	Equipment Location No. (Account)	Equipment to be Operated	Equipment Location No. (Account)
	EC-TNK-360	Atmospheric Vent		Chlorine Scrubber Tank (contains NaOH)	2038 801638
EC Chemical Recovery	EC-ACD-301	Vent Scrubber System		Ethyl Chloride Distillation Columns (2) Stripper, EtCl Stripper, solvent Condensers (3) Vent Stripper Cooler A3 Still Preheater Alcohol Cooler	2039 010201 010202 280361 280722 280219
MCA Reaction MCA Capacity: 8,000 tons/yr	MC-ACD-001 MC-ACD-002	Chlorine Scrubber Tank Venturi Jet Sewer Scrubber	2164 801638 600366 2135 010247	Chlorine Unloading Catalyst Scrubber and Condensers Chlorinators #1 North #2 South	 2135 2135 700095 700099
MCA Purification	MC-ACD-002	Sewer (Distillation) Scrubber	2135 010247	Distillation Column Condensers, Primary & Secondary	2135 010196 2135 280958, 281060
MCA Chemical Recovery	MC-ACD-002 MC-ACD-103	Sewer Scrubber	2135 010247	Catalyst Scrubber HCL Scrubber Separator Pots (3) Final Off-Gas Cooler Secondary Primary Condensers (8)	 2135 750980
MCA Tanks	MC-ACD-002 MC-TNK-201 MC-TNK-220	Tank Farm Scrubber [for emergency use; normally all tanks part of	2135 010247	MCA Crude Tank MCA Recycle Tanks T-20	2135 801645 9114 801429

Operation Producing Emissions	Emission Point/ Unit No.	Pollution Control Device	Equipment Location No. (Account)	Equipment to be Operated	Equipment Location No. (Account)
	MC-TNK-221	a closed system under		T-21	801168
	MC-TNK-223	vacuum]		T-23	801617
	MC-TNK-224			T-24	801422
	MC-TNK-225			T-25	801420
	MC-TNK-226			T-26	801423
	MC-TNK-227			Still Recycle	2135 801022
	MC-TNK-230			MCA Trailer	9036
		Vent to Atmosphere		Acetic Acid Tanks	9114
	MC-TNK-294			T-94	801175
	MC-TNK-295			T-95	801163
	MC-TNK-296			Acetic Anhydride Tk 96	9114 801174
Technical Facility: Research/ Pilot scale Operation	TF-ACD-001	Process Scrubber		Pilot-Scale Reactors - 10 gal (3) Reactor – 250 gal Purification Vessels Hold Tub Effluent Tub Purification Tub Fume Hoods (7) Purification Ports (3 or 4) Vacuum Receiver Tank	
	TF-ACD-002	Vacuum Receiver Tank		Dryer Ovens (2) Pilot-Scale Reactors (3), -10 gal Reactor – 250 gal	
		Vent to Atmosphere		Grinders, laboratory scale	3185
				Mill	550157
				Pulverizers (3)	550241, 550242
				Screeners (2)	750001
		Vent to Atmosphere			
	TF-TNK-510			Acetone/Methanol Tank	
	TF-TNK-520			Acetone/Methanol Tank	
	TF-TNK-530			Isopropanol Tank	
	TF-TNK-540			Methanol Tank	
	TF-TNK-550			Acetone Tank	
	TF-TNK-560			Distilled Solvent Tank	
	TF-TNK-570			Spent Solvent Tank	

EMISSIONS INVENTORY

An emission update was received for the year 2001. The actual annual emissions from the facility were reported as 6.7 tons of PM10 and 600.4 tons of VOC.

EMISSION UNIT APPLICABLE REQUIREMENTS

The source has emission unit specific applicable requirements for six main production areas: the CMC (carboxymethylcellulose) process area, the Natrosol (hydroxyethyl cellulose) process area, the Klucel (hydroxypropyl cellulose) process area, the EC (ethylcellulose) process area, the MCA (monochloroacetic acid) process area and the Technical Facility (small scale Research & Development operations). In addition, the storage tanks from the entire facility that have applicable requirements have been grouped together in the Title V permit as a storage tank category. The sources of applicable requirements for the various areas are as follows:

CMC – February 25, 2003 minor New Source Review permit; July 12, 1996 RACT Agreement; and 40 CFR 63 Subparts A and UUUU (MACT standard for cellulose product manufacturing)

Natrosol – June 28, 1996 minor New Source Review permit; July 12, 1996 RACT Agreement; and 40 CFR 63 Subparts A and UUUU (MACT standard for cellulose product manufacturing)

Klucel – August 20, 1998 minor New Source Review permit; July 12, 1996 RACT Agreement; and 40 CFR 63 Subparts A and UUUU (MACT standard for cellulose product manufacturing)

EC – January 9, 1984 minor New Source Review permit; July 12, 1996 RACT Agreement; 40 CFR 63 Subpart H (Leak Detection and Repair requirements from the HON MACT); and 9 VAC 5-50-80: the new and modified source visible emission standard from Chapter 50 of the Virginia regulations. Because of the 1984 permit, the EC process area is considered to be new/modified, however, the 1984 permit did not include an opacity limitation. Therefore, the visible emission sources in the EC process area are subject to the 9 VAC 5-50-80 standard by default. The CMC, Natrosol and Klucel process areas all have opacity standards in their respective minor NSR permits and are therefore not covered by the Chapter 50 standard. The MCA process area, the Technical Facility and the Storage Tank group do not have any visible emission sources, so the Chapter 50 visible emission opacity standard is not applicable.

MCA – July 12, 1996 RACT Agreement; and 40 CFR 63 Subpart H (Leak Detection and Repair requirements from the HON MACT). There is also an April 3, 2003 NSR permit, but the only specific requirements in this permit are based on the non-SIP approved VA toxic regulation and are therefore not applicable to the Title V program.

Technical Facility - July 12, 1996 RACT Agreement

Storage Tank Group – Chapter 40 Existing Source Standard for Storage Tanks from Virginia's regulations 9 VAC 5-40-3430; 40 CFR 60 Subpart Kb (new source performance standard for storage tanks); and 40 CFR 63 Subpart G (Storage tanks requirements from HON MACT)

A. CMC Applicable Requirements – the source of the requirement appears in parentheses after the requirement (along with a generic Title V regulatory reference)

1. Total suspended particulate and PM_{10} emissions from the CMC process, including the two CMC cellulose weigh/storage bins (CM-ACD-001), shall be controlled by baghouses. The baghouses shall be provided with adequate access for inspection.

(Condition #3, 2/25/03 permit and 9 VAC 5-80-110)

2. Volatile Organic Compound emissions from the CMC process shall be controlled by three scrubbers: the Alkali Cellulose Loading scrubber, the Oxygen scrubber and the Common Header scrubber. The scrubbers shall be provided with adequate access for inspection.

(Condition #4, 2/25/03 permit and 9 VAC 5-80-110)

3. VOC emissions from the CMC Process Area shall be controlled by the use of solvent recovery and process scrubbers having an overall VOC control efficiency of at least 99% on a mass basis, calculated monthly as a six-month rolling average. Compliance with this requirement shall be demonstrated by material balance according to the following equation:

$$\sum_{i=1}^{i=6} (V_T - V_A)_i \Big/ \sum_{i=1}^{i=6} (V_T)_i \times 100 >= 99\%$$

where:

V_T = mass of VOC (in pounds) circulated/used through the process area during a one-month period, as calculated from measured flow and VOC concentration of still output

V_A = mass of VOC (in pounds) lost to the air from point, nonpoint and fugitive sources which cannot be accounted for as other losses (including but not limited to reaction consumption, recycle/recovery, product retention, sewer loss and product transfer), as determined by material balance, using the equation:

$$V_A = V_{LOSS} - V_{OTHER}$$

where:

V_{LOSS} = Mass of final inventory from the current month, minus Mass of starting inventory from current month, minus Mass of solvent purchased in the current 1-month period, (as determined from purchase records and cost sheets which show changes in inventory)

V_{OTHER} = Mass of non-air VOC losses which include but are not limited to: reaction consumption, recycle/recovery, product retention, sewer loss and product transfer

i = month number one through month number six of the

6-month rolling average

- sewer losses are calculated based on continuous flow-weighted composite samples of wastewater and physical flow measurements

- derivation losses are calculated based on a product-specific correlation between production rate and solvent loss taken from previous study of this type of loss.

- product residual losses are determined from previous sampling and product-specific data on solvent remaining in the product as it leaves the plant.

Results of the compliance calculation shall be reported to the Virginia Department of Environmental Quality annually, and records will be maintained for a period of at least five years.

(Conditions E.5 and E.13 of 7/12/96 RACT Agreement and 9 VAC 5-80-110, Condition #6, 2/25/03 permit)

Note: The RACT agreement and the permit contain similar requirements: both are for VOC recovery efficiencies calculated identically and averaged over the same 6-month intervals. The only difference is that the RACT required efficiency is 98% versus the permit required (BACT) efficiency of 99%. Because of this, the permit BACT requirement of 99% will be used in a streamlined fashion for both.

4. Emissions from the operation of the CMC process shall not exceed the limits specified below, calculated monthly as the sum of each consecutive 12 month period:

Volatile Organic Compounds	422 tons/yr

(Condition #7, 2/25/03 permit and 9 VAC 5-80-110)

5. Total Suspended Particulate and PM_{10} emissions from the operation of the CMC process reference points shall not exceed the limits specified below:

Ref. No.	Description	Emission Limits	
		lb/hr	tons/yr
CM-ACD-001	Cellulose Prep Area (Shredders/Storage Bins)	0.4	1.4
CM-ACD-309	#1 Mill Feed Baghouse	0.2	0.9
CM-ACD-310	#2 Mill Feed Baghouse	0.2	0.9
CM-ACD-311	Regrind Mill Feed Dust Baghouse	0.2	0.9
CM-ACD-312	#1 Mill Product Dust Baghouse	0.5	2.0
CM-ACD-313	#2 Mill Product Dust Baghouse	0.5	2.0
CM-ACD-314	Regrind Mill Product Baghouse	0.5	2.0

Ref. No.	Description	Emission Limits	
		lb/hr	tons/yr
CM-ACD-315	#1 Blender Baghouse (Convey)	0.3	0.5
CM-ACD-315	#1 Blender Baghouse (Pulse)	0.6	0.5
CM-ACD-316	#2 Blender Baghouse (Convey)	0.3	0.5
CM-ACD-316	#2 Blender Baghouse (Pulse)	0.6	0.5
CM-ACD-317	Custom Blender Dust Collector	0.3	0.5
CM-ACD-318	Vacuum Baghouse Dust Collector	0.1	0.5
CM-ACD-319	Aspirator Dust Collector	0.2	0.8
CM-ACD-301 through CM-ACD-308	Dryer Storage Bin Vent Filters	0.1	0.5
	Totals	4.7	12.3

(Condition #8, 2/25/03 permit and 9 VAC 5-80-110))

6. Visible emissions from the baghouses shall not exceed 5 percent opacity as determined by EPA Method 9 (reference 40 CFR Part 60, Appendix A). This condition applies at all times except during startup, shutdown and malfunction.

(Condition #9, 2/25/03 permit and 9 VAC 5-80-110))

7. Unless other wise specified in 40 CFR 63 Subparts A and UUUU, upon June 13, 2005, the CMC Process Area shall be in compliance with all applicable provisions of 40 CFR 63, Subparts A and UUUU.

(40 CFR 63 Subparts A and UUUU and 9 VAC 5-80-110 E)

The 2/25/03 permit, 40 CFR Subparts A and UUUU, and the RACT Agreement also contained recordkeeping and monitoring provisions. These are discussed below in the discussion of periodic monitoring for the CMC process area.

B. CMC Periodic Monitoring

General Periodic Monitoring Notes:

The EPA periodic monitoring guidance, dated September 18, 1998, indicates on page 4 that periodic monitoring is required for each emission point at a source, subject to Title V of the Act, that is subject to an applicable requirement.

EPA has also stated that MACT (40 CFR 63) and NSPS (40 CFR 60) standards promulgated in the 1990s by default can be considered to include monitoring, recordkeeping, and reporting provisions sufficient to qualify as periodic monitoring without additional requirements. Thus no additional periodic monitoring is discussion is included for 40 CFR 63 Subparts A and UUUU (CMC, Natrosol, Klucel), 40 CFR Subparts G and H (EC, MCA, Storage Tanks) and 40 CFR 60 Subpart Kb (Storage Tanks)

For all actual monitoring (i.e. opacity checks, monthly/annual inspections, etc.), records shall be kept to verify the occurrence and results of the monitoring. In addition, the source shall submit to the DEQ reports of any opacity observations which reveal visible emissions in excess of an applicable standard.

The applicable periodic monitoring for the CMC process area is defined as follows (the source of the monitoring appears in parentheses after the requirement along with a Title V periodic monitoring regulatory reference)(also, the condition/requirement numbers may not always match those of the Title V permit itself):

8. The CMC Process Area VOC still output shall be continuously measured and the totalized flow recorded once per shift.

(Condition E.10 of RACT Agreement 7/12/96 and 9 VAC 5-80-110 E)

The above requirement, as noted, is taken from the RACT agreement. In general, the RACT agreement specified the procedures (monitoring and recordkeeping) required for the Hercules to demonstrate compliance with the RACT emission standards for each process area. For the CMC process area, these consist of #8 above and #11.b. below. Taken together, these two monitoring requirements provide an reasonable assurance of compliance with the streamlined BACT/RACT standard from Requirement #3 (Requirement #'s indicate SOB numbering) and therefore constitute a sufficient level of periodic monitoring. In the following sections for the other areas of the Hercules facility, the monitoring specified by the RACT agreement for the RACT emission standards will be listed and, using the rationale stated above, determined to be sufficient to constitute periodic monitoring without further discussion.

9. A monthly inspection shall be conducted on each fabric filter, including any differential pressure gauges, in the CMC process area and the scrubbers listed in Condition #2 to insure the proper operation of each fabric filter and scrubber. The permittee shall maintain records of the results of the monthly inspections and details of any corrective actions taken as a result of these inspections. These records shall be available on site for inspection by the DEQ and shall be current for the most recent five years.

(9 VAC 5-80-110 E)

Requirements #1 and #2 had no specific monitoring requirements in the NSR permit itself. Thus, the above monitoring requirement was developed under the authority of 9 VAC 5-80-110 E to provide a reasonable assurance of compliance. Monthly inspections (and records of such; #11.d.) of the scrubbers, baghouses and associated monitoring devices should be sufficient for this purpose. In the following sections for the other areas of the Hercules facility, monthly inspections w/recordkeeping is

determined to be sufficient periodic monitoring for NSR permit conditions (with no other monitoring specified) of this nature (xxx emissions shall be controlled by yyy air pollution control equipment) without further discussion.

10. Each baghouse subject to condition #6 shall be observed visually at least once each operating month for at least a brief time period to determine which emissions units have any visible emissions (does not include condensed water vapor/steam), unless a 40 CFR 60 Appendix A Method 9 visible emissions evaluation is performed on the emissions unit. Each emissions unit observed having any visible emissions shall be followed up with a 40 CFR 60 Appendix A Method 9 visible emissions evaluation unless the visible emission condition is corrected as expeditiously as possible and recorded, and the cause and corrective measures taken are recorded.

(9 VAC 5-80-110 E)

Under normal operating conditions there should be no visible emissions from any of the control devices subject to requirement #6, so any of these control devices operating in a malfunctioning or poorly maintained state should be readily identifiable by the presence of visible emissions. Therefore, as long as there are no visible emissions from any of these units, the unit would be meeting its opacity limit and should be operating properly. Periodic monitoring for opacity standard in requirement #6 is therefore determined to be monthly visible emission observations of each emission point (with recordkeeping, #11.f., and deviation reporting, #12) followed by corrective action to any unit where any visible emissions were observed. In the following sections for the other areas of the Hercules facility, monthly inspections w/recordkeeping and reporting is determined to be sufficient periodic monitoring for NSR permit conditions (opacity standards) of this nature without further discussion.

11. The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Director, Piedmont Region. These records shall include, but are not limited to:

    a. The annual VOC emissions from the CMC process, calculated monthly as the sum of each consecutive 12 month period, and any emission factors, material throughputs and/or material balance calculations used in calculating these emissions.

    b. All records necessary to show compliance with Condition #3 including:

        - inventory records, purchase records and cost sheets which show changes in inventory;
        - cumulative records of solvent throughput as specified in Condition #8
        - wastewater sampling and flow measurement data;
        - derivation loss correlation data;
        - product residual data; and
        - calculations and all background data used to calculate VOC control efficiency in accordance with Condition #3 of this permit.

    c. Scheduled and unscheduled maintenance, and operator training.

d. Records of monthly inspections required by Condition #9.

e. The annual particulate emissions from the equipment listed in Condition #5, calculated monthly as the sum of each consecutive 12 month period, and any emission factors, material throughputs and/or material balance calculations used in calculating these emissions.

f. The results of the monthly visible emission surveys required by Condition #10 and details of any corrective action taken as a result of these inspections

g. The maximum hourly particulate emissions from the equipment listed in Condition #5, calculated at the end of each month for that month, and any emission factors, operating hours, material throughputs and/or material balance calculations used in calculating these emissions.

These records shall be available for inspection by the DEQ and shall be current for the most recent five years.
(Condition E.14 of 7/12/96 RACT Agreement, Condition #13, 2/25/03 permit and 9 VAC 5-80-110 E)

#11.a. contains the periodic monitoring for requirement #4. Calculation and recordkeeping of the VOC emissions on a monthly basis, summed for consecutive 12 month periods, along with supporting data used in these calculations is determined to be sufficient provide a reasonable assurance of compliance with the annual VOC emission limitation of requirement #4. This monitoring mechanism is the same as that specified in the 2002 NSR permit, is primarily base on the tracking of VOC material inventories, and is one of the few accepted monitoring practices for requirements of this type (combined VOC emission limitations for multiple/varied point sources and fugitive emission sources within one large production area). Consequently, in the following sections for the other areas of the Hercules facility, monthly calculation and recordkeeping of VOC emissions and recordkeeping of supporting data is determined to be sufficient periodic monitoring for NSR permit conditions (VOC emission limitations) of this nature without further discussion.

Requirements #11.e. and #11.g. serve as periodic monitoring for the hourly and annual particulate emission limitations of requirement #5. Calculation and recordkeeping of monthly particulate emissions summed for consecutive 12 months periods and maximum hourly particulate emissions for each month along with recordkeeping of supporting data should provide a reasonable assurance of compliance with the respective particulate limitations. This is particularly true when the small magnitude of the emission limitations of requirement #5 are considered and when the underlying basis (from the 2002 NSR permit) of the emission limitations (control by baghouses in good operating condition) are already reasonably assured by periodic monitoring of the type found #12. Consequently, in the following sections for the other areas of the Hercules facility, monthly calculation and recordkeeping of particulate emissions and recordkeeping of supporting data is determined to be sufficient periodic monitoring for NSR permit conditions (particulate emission limitations) of this nature without further discussion.

12. The permittee shall report the results of any 40 CFR Part 60 method 9 opacity test performed as a result of Condition #10 above. If the test indicates the facility is out of compliance with the standard contained in Condition #6, the source shall also report the length of time associated with any exceedance of the standard and the corrective actions taken to correct the exceedance. This report shall be sent to the Director, Piedmont Regional Office within seven days of the applicable test unless otherwise noted in Section XII, Condition E.
(9 VAC 5-80-110 E)

C. Natrosol Applicable Requirements – the source of the requirement appears in parentheses after the requirement (along with a generic Title V regulatory reference)

13. Particulate emissions from the Natrosol production area shall be controlled by fabric filter. The fabric filters shall be provided with adequate access for inspection. Each fabric filter shall be equipped with a device to sense and alarm or read out high differential pressure drop across the fabric filter. The device shall be installed in an accessible location and shall be maintained by the permittee such that it is in proper working order at all times. Fugitive emissions from the weigh bins shall be controlled by bag filter, at minimum. The weigh bins and bag filters shall be provided with adequate access for inspection.
(Condition #3, 6/28/96 permit and 9 VAC 5-80-110)

14. VOC emissions from the Natrosol reactors shall be controlled by a scrubber. The scrubber shall be provided with adequate access for inspection. The scrubber shall be equipped with a flow meter and a device to continuously measure the differential pressure through the scrubber.
(Condition #4, 6/28/96 permit and 9 VAC 5-80-110)

15. The annual production of Natrosol shall not exceed 21,900 tons/yr, calculated as the sum of each consecutive 12 month period.
(Condition #6, 6/28/96 permit and 9 VAC 5-80-110)

16. Air emissions from the Natrosol production area shall not exceed the limits specified below:

TSP/PM-10	4.8 lbs/hr	19.0 tons/yr
Volatile Organic Compounds		170.0 tons/yr

(Condition #7, 6/28/96 permit and 9 VAC 5-80-110)

17. Best Available Control Technology and compliance with the annual VOC emission limit contained in Condition #16 shall be demonstrated by material balance according to the following equation:

$$\frac{\sum_{i=1}^{i=6} (V_T - V_A)_i}{\sum_{i=1}^{i=6} (V_T)_i} \times 100 >= 98\%$$

where:

V_T = mass of VOC (in pounds) circulated/used through the process area during a one-month period, as determined from inventory measurements and/or measured flow and VOC concentration of still output

V_A = mass of VOC (in pounds) lost to the air from point, nonpoint and fugitive sources which cannot be accounted for as other losses (including but not limited to reaction consumption, recycle/recovery, product retention, sewer loss and product transfer), as determined by material balance, using the equation:

$$V_A = V_{LOSS} - V_{OTHER}$$

where:

V_{LOSS} = Mass of final inventory from the current month, minus Mass of starting inventory from current month, minus Mass of solvent purchased in the current 1-month period, (as determined from purchase records and cost sheets which show changes in inventory)

V_{OTHER} = Mass of non-air VOC losses which include but are not limited to: reaction consumption, recycle/recovery, product retention, sewer loss and product transfer

i = month number one through month number six of the 6-month rolling average

- sewer losses are calculated based on continuous flow-weighted composite samples of wastewater and physical flow measurements

- derivation losses are calculated based on a product-specific correlation between production rate and solvent loss taken from previous study of this type of loss.

- product residual losses are determined from previous sampling and product-specific data on solvent remaining in the Natrosol product as it leaves the plant.

Results of the compliance calculation shall be reported to the Virginia Department of Environmental Quality annually, and records will be maintained for a period of at least five years.

(Condition #8, 6/28/96 permit; Condition E.6 and E.13 of RACT Agreement 7/12/96 and 9 VAC 5-80-110)

18. Visible emissions from the Natrosol production area fabric filters shall not exceed 5 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).

(Condition #9, 6/28/96 permit and 9 VAC 5-80-110)

19. Unless other wise specified in 40 CFR 63 Subparts A and UUUU, upon June 13, 2005, the Natrosol Process Area shall be in compliance with all applicable provisions of 40 CFR 63, Subparts A and UUUU.

(40 CFR 63 Subparts A and UUUU and 9 VAC 5-80-110 E)

D. Natrosol Periodic Monitoring

General Periodic Monitoring Notes:

The EPA periodic monitoring guidance, dated September 18, 1998, indicates on page 4 that periodic monitoring is required for each emission point at a source, subject to Title V of the Act, that is subject to an applicable requirement.

For all actual monitoring (i.e. opacity checks, monthly/annual inspections, etc.), records shall be kept to verify the occurrence and results of the monitoring. In addition, the source shall submit to the DEQ reports of any opacity observations which reveal visible emissions in excess of an applicable standard.

The applicable periodic monitoring for the Natrosol process area is defined as follows (the source of the monitoring appears in parentheses after the requirement along with a Title V periodic monitoring regulatory reference)(also, the condition/requirement numbers may not always match those of the Title V permit itself):

20. A monthly inspection shall be conducted on each fabric filter in the Natrosol production area, the weigh bins bag filter, and the Natrosol reactor VOC scrubber to insure the proper operation of the bag filter, the VOC scrubber and its associated flow meter and differential pressure device, each fabric filter and each fabric filter's differential pressure device. The permittee shall maintain records of the results of the monthly inspections and details of any corrective actions taken as a result of these inspections. These records shall be available on site for inspection by the DEQ and shall be current for the most recent five years.

(9 VAC 5-80-110 E)

Periodic Monitoring for Requirements #13 and #14

21. Each fabric filter subject to condition #18 shall be observed visually at least once each operating month for at least a brief time period to determine which emissions units have any visible emissions (does not include condensed water vapor/steam), unless a 40 CFR 60 Appendix A Method 9 visible emissions evaluation is performed on the emissions unit. Each emissions unit observed having any visible emissions shall be followed up with a 40 CFR 60 Appendix A Method 9 visible emissions evaluation unless the visible emission condition is corrected as expeditiously as possible and recorded, and the cause and corrective measures taken are recorded.

(9 VAC 5-80-110 E)

Periodic Monitoring for Requirement #18

22. The Natrosol Process Area VOC still output shall be continuously measured and the totalized flow recorded once per shift.
(Condition E.10 of RACT Agreement 7/12/96 and 9 VAC 5-80-110 E)

Periodic Monitoring for Requirement #17

23. The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Director, Piedmont Regional Office. These records shall include, but are not limited to:

    a. The yearly production of Natrosol, calculated as the sum of each consecutive 12 month period.

    b. All records necessary to show compliance with Conditions #16 and #17 including:

        - inventory records, purchase records and cost sheets which show changes in inventory;
        - cumulative records of solvent throughput as specified in Condition #22
        - wastewater sampling and flow measurement data;
        - derivation loss correlation data;
        - product residual data; and
        - calculations and all background data used to determine VOC emissions and VOC control efficiency in accordance with Conditions #16 and #17 of this permit.

    c. Records of monthly inspections required by Condition #20.

    d. The annual particulate emissions from the Natrosol Production Area, calculated monthly as the sum of each consecutive 12 month period, and any emission factors, material throughputs and/or material balance calculations used in calculating these emissions.

    e. The results of the monthly visible emission surveys of the fabric filters required by Condition #21 and details of any corrective action taken as a result of these inspections

    f. The maximum hourly particulate emissions from the Natrosol Production Area, calculated at the end of each month for that month, and any emission factors, material throughputs and/or material balance calculations used in calculating these emissions.

    These records shall be available for inspection by the DEQ and shall be current for the most recent five (5) years.
    (Condition E.14 of 7/12/96 RACT Agreement, Condition #12, 6/28/96 permit and 9 VAC 5-80-110 E)

Periodic Monitoring for Requirements #15, #16, #17 and #18

Requirement #23.a. contains the monitoring placed in the 1996 NSR permit for requirement #15. The specified monthly recordkeeping of process throughputs is the accepted compliance method for permitted throughput limitations. In the following sections for the other areas of the Hercules facility, monthly recordkeeping of process throughputs is determined to be sufficient periodic monitoring for NSR permit conditions (throughput limitations) of this nature without further discussion.

24. The permittee shall report the results of any 40 CFR Part 60 method 9 opacity test performed as a result of Condition #21 above. If the test indicates the facility is out of compliance with the a standard contained in Condition #18, the source shall also report the length of time associated with any exceedance of the standard and the corrective actions taken to correct the exceedance. This report shall be sent to the Director, Piedmont Regional Office within seven days of the applicable test unless otherwise noted in Section XII, Condition E.

(9 VAC 5-80-110 E)

Periodic Monitoring for Requirement #18

E. Klucel Applicable Requirements – the source of the requirement appears in parentheses after the requirement (along with a generic Title V regulatory reference)

25. Particulate emissions from the cellulose preparation area shall be controlled by fabric filters having control efficiencies of at least 99%. The fabric filters shall be provided with adequate access for inspection. Each fabric filter shall be equipped with a device to continuously measure the differential pressure drop across the fabric filter. The devices shall be installed in an accessible location and shall be maintained by the permittee such that they are in proper working order at all times.

(Condition #3, 8/20/98 permit and 9 VAC 5-80-110)

26. Volatile Organic Compound emissions from the Klucel process area shall be controlled by solvent recovery and process scrubbers, having an overall VOC control efficiency of at least 96% on a mass basis, calculated monthly as a 6-month rolling average. VOC flow shall be measured and the totalized flow recorded for each batch.

(Condition #4, 8/20/98 permit; Conditions E.3 and E.9 of RACT Agreement 7/12/96 and 9 VAC 5-80-110)

27. Volatile Organic Compound fugitive emissions from the centrifuges (Centrifuge #1 and Centrifuge #2) shall be controlled by mechanical seals. The centrifuges and mechanical seals shall be provided with adequate access for inspection.

(Condition #5, 8/20/98 permit and 9 VAC 5-80-110)

28. The annual production of Klucel shall not exceed 2550 tons per year, calculated monthly as the sum of each consecutive 12 month period.

(Condition #7, 8/20/98 permit and 9 VAC 5-80-110)

29. Emissions from the operation of the Klucel hydroxypropyl cellulose process shall not exceed the limits specified below:

Total Suspended Particulate	0.5 lbs/hr	1.0 tons/yr
PM-10	0.5 lbs/hr	1.0 tons/yr
Volatile Organic Compounds	42.2 lbs/hr	195.0 tons/yr

(Condition #8, 8/20/98 permit and 9 VAC 5-80-110)

30. Best Available Control Technology and compliance with the annual VOC emission limit contained in Condition #38 shall be demonstrated by material balance according to the following equation:

$$\sum_{i=1}^{i=6} (V_T - V_A)_i \Big/ \sum_{i=1}^{i=6} (V_T)_i \times 100 >= 96\%$$

where:

V_T= mass of VOC (in pounds) circulated/used through the process area during a one-month period, as calculated from measured VOC flow

V_A= mass of VOC (in pounds) lost to the air from point, nonpoint and fugitive sources which cannot be accounted for as other losses (including but not limited to reaction consumption, recycle/recovery, product retention, sewer loss and product transfer), as determined by material balance, using the equation:

$$V_A = V_{LOSS} - V_{OTHER}$$

where:

V_{LOSS} = Mass of final inventory from the current month, minus Mass of starting inventory from the current month, minus Mass of solvent purchased in the current 1-month period, (as determined from purchase records and cost sheets which show changes in inventory)

V_{OTHER}= Mass of non-air VOC losses (which include but are not limited to: reaction consumption, recycle/recovery, product retention, sewer loss and product transfer)

i = month number one through month number 6 of the 6-month period

(Condition #9, 8/20/98 permit; Condition E.3 and E.10 of RACT Agreement 7/12/96 and 9 VAC 5-80-110)

31. Visible emissions from the Klucel cellulose preparation fabric filters shall not exceed 5 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).

(Condition #10, 8/20/98 permit and 9 VAC 5-80-110)

32. Visible emissions from the tanks, reactors, scrubbers, and all emission units in the Klucel area other than the fabric filters shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).

(Condition #11, 8/20/98 permit and 9 VAC 5-80-110)

33. Unless other wise specified in 40 CFR 63 Subparts A and UUUU, upon June 13, 2005, the Klucel Process Area shall be in compliance with all applicable provisions of 40 CFR 63, Subparts A and UUUU.

(40 CFR 63 Subparts A and UUUU and 9 VAC 5-80-110 E)

F. Klucel Periodic Monitoring

General Periodic Monitoring Notes:

The EPA periodic monitoring guidance, dated September 18, 1998, indicates on page 4 that periodic monitoring is required for each emission point at a source, subject to Title V of the Act, that is subject to an applicable requirement. :

For all actual monitoring (i.e. opacity checks, monthly/annual inspections, etc.), records shall be kept to verify the occurrence and results of the monitoring. In addition, the source shall submit to the DEQ reports of any opacity observations which reveal visible emissions in excess of an applicable standard.

The applicable periodic monitoring for the Klucel process area is defined as follows (the source of the monitoring appears in parentheses after the requirement along with a Title V periodic monitoring regulatory reference)(also, the condition/requirement numbers may not always match those of the Title V permit itself):

34. A monthly inspection shall be conducted on the mechanical seals on the centrifuges, Centrifuge #1 and Centrifuge #2, as well as each fabric filter in the cellulose preparation area to insure the proper operation of each seal, fabric filter and each fabric filter's differential pressure device. The permittee shall maintain records of the results of the monthly inspections and details of any corrective actions taken as a result of these inspections. These records shall be available on site for inspection by the DEQ and shall be current for the most recent five years.

(9 VAC 5-80-110 E)

Periodic Monitoring for Requirements #25, #27, #31 and #32

35. Each emissions unit and fabric filter subject to either condition #31 or #32 shall be observed visually at least once each operating month for at least a brief time period to determine which emissions units have any visible emissions (does not include condensed water vapor/steam), unless a 40 CFR 60

Appendix A Method 9 visible emissions evaluation is performed on the emissions unit. Each emissions unit observed having any visible emissions shall be followed up with a 40 CFR 60 Appendix A Method 9 visible emissions evaluation unless the visible emission condition is corrected as expeditiously as possible and recorded, and the cause and corrective measures taken are recorded. (9 VAC 5-80-110 E)

Periodic Monitoring for Requirements #25, #31 and #32

36. The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Director, Piedmont Region. These records shall include, but are not limited to:

    a. The yearly production of Klucel, calculated monthly as the sum of each consecutive 12 month period.

    b. Monthly VOC inventory and throughput records which demonstrated compliance with Conditions #26, #29 and #30, including but not limited to:

        (1) inventory records, purchase records and cost sheets which show changes in inventory;

        (2) cumulative records of solvent throughput as specified in Condition #26;

        (3) wastewater sampling and flow management data;

        (4) derivation loss correlation data;

        (5) product residual data; and

        (6) calculations used to determine VOC emissions and VOC control efficiency in accordance with Conditions #26, #29 and #30 of this permit.

    c. Records of monthly inspections required by Condition #34.

    d. The annual particulate emissions from the Klucel hydroxypropyl cellulose process, calculated monthly as the sum of each consecutive 12 month period, and any emission factors, material throughputs and/or material balance calculations used in calculating these emissions.

    e. The results of the monthly visible emission surveys of the emission units and fabric filters required by Condition #35 and details of any corrective action taken as a result of these inspections

    f. The maximum hourly particulate and VOC emissions from the Klucel hydroxypropyl cellulose process, calculated at the end of each month for that month, and any emission

factors, material throughputs and/or 6-month rolling average material balance calculations used in calculating these emissions.

These records shall be available for inspection by the DEQ and shall be current for the most recent five (5) years.
(Condition E.14 of 7/12/96 RACT Agreement, Condition #13, 8/20/98 permit and 9 VAC 5-80-110)

Periodic Monitoring for Requirements #25-#32

37. The permittee shall report the results of any 40 CFR Part 60 method 9 opacity test performed as a result of Condition #35 above. If the test indicates the facility is out of compliance with a standard contained in Conditions #31 or #32, the source shall also report the length of time associated with any exceedance of the standard and the corrective actions taken to correct the exceedance. This report shall be sent to the Director, Piedmont Regional Office within seven days of the applicable test unless otherwise noted in Section XII, Condition E.

(9 VAC 5-20-110, 9 VAC 5-50-50 and 9 VAC 5-80-110 E of State Regulations)

Periodic Monitoring for Requirements #25, #31 and #32

G. EC Applicable Requirements – the source of the requirement appears in parentheses after the requirement (along with a generic Title V regulatory reference)

38. The annual production of ethyl cellulose shall not exceed 3500 tons per year, calculated monthly as the sum of each consecutive 12 month period.

(Condition #2, 1/9/84 permit and 9 VAC 5-80-110)

39. Emissions from the operation of the following EC area emission units shall not exceed the limits specified below:

	ACD204	ACD202	ACD202	ACD203	ACD101
TSP					
- lbs/hr	4.2	0.03	0.03	0.03	
- tons/yr	8.8	0.11	0.11	0.11	
VOC					
- lbs/hr					58.0
- tons/yr					256.0

(Condition #3, 1/9/84 permit and 9 VAC 5-80-110)

40. VOC emissions from the EC Process Area shall be controlled by the use of solvent recovery and process scrubbers having an overall VOC control efficiency of at least 90% on a mass basis, calculated monthly as a six-month rolling average. Compliance with this requirement shall be demonstrated by material balance according to the following equation:

$$\frac{\sum_{i=1}^{i=6} (V_T - V_A)_i}{\sum_{i=1}^{i=6} (V_T)_i} \times 100 >= 90\%$$

where:

V_T = mass of VOC (in pounds) circulated/used through the process area during a one-month period, as calculated from inventory measurements

V_A = mass of VOC (in pounds) lost to the air from point, nonpoint and fugitive sources which cannot be accounted for as other losses (including but not limited to reaction consumption, recycle/recovery, product retention, sewer loss and product transfer), as determined by material balance, using the equation:

$$V_A = V_{LOSS} - V_{OTHER}$$

where:

V_{LOSS} = Mass of final inventory from the current month, minus Mass of starting inventory from current month, minus Mass of solvent purchased in the current 1-month period, (as determined from purchase records and cost sheets which show changes in inventory)

V_{OTHER} = Mass of non-air VOC losses which include but are not limited to: reaction consumption, recycle/recovery, product retention, sewer loss and product transfer

i = month number one through month number six of the 6-month rolling average

Results of the compliance calculation shall be reported to the Virginia Department of Environmental Quality annually, and records will be maintained for a period of at least five years.

(Conditions E.4 and E.12 of 7/12/96 RACT Agreement and 9 VAC 5-80-110)

41. Visible emissions from all emission units and control devices in the Klucel area shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A). (9 VAC 5-50-80 and 9 VAC 5-80-110)

42. The EC Process Area is subject to and will comply with the Leak Detection and Repair Requirements of 40 CFR 63 Subpart H, including the provisions of 40 CFR:

63.162 – Standards: General
63.163 – Standards: Pumps in light liquid service
63.165 – Standards: Pressure relief devices in gas/vapor service
63.166 – Standards: Sampling Connection systems
63.167 – Standards: Open-ended valves or lines
63.168 – Standards: Valves in gas/vapor service and in light liquid service
63.169 – Standards: Pumps, valves, connectors, and agitators in heavy liquid service; instrumentation systems; and pressure relief devices in liquid service
63.171 – Standards: Delay of repair
63.173 – Standards: Agitators in gas/vapor service and in light liquid service
63.174 – Standards: Connectors in gas/vapor service and in light liquid service
63.180 – Test methods and procedures
63.181 – Recordkeeping requirements
63.182 – Reporting requirements
(9 VAC 5-80-110 and 40 CFR 63 Subpart H)

H. EC Periodic Monitoring

General Periodic Monitoring Notes:
The EPA periodic monitoring guidance, dated September 18, 1998, indicates on page 4 that periodic monitoring is required for each emission point at a source, subject to Title V of the Act, that is subject to an applicable requirement. :

For all actual monitoring (i.e. opacity checks, monthly/annual inspections, etc.), records shall be kept to verify the occurrence and results of the monitoring. In addition, the source shall submit to the DEQ reports of any opacity observations which reveal visible emissions in excess of an applicable standard.

The applicable periodic monitoring for the EC process area is defined as follows (the source of the monitoring appears in parentheses after the requirement along with a Title V periodic monitoring regulatory reference)(also, the condition/requirement numbers may not always match those of the Title V permit itself):

43. Each emissions unit and control device subject to condition #41 shall be observed visually at least once each operating month for at least a brief time period to determine which emissions units have any visible emissions (does not include condensed water vapor/steam), unless a 40 CFR 60 Appendix A Method 9 visible emissions evaluation is performed on the emissions unit. Each emissions unit observed having any visible emissions shall be followed up with a 40 CFR 60 Appendix A Method 9 visible emissions evaluation unless the visible emission condition is corrected as expeditiously as possible and recorded, and the cause and corrective measures taken are recorded. (9 VAC 5-80-110 E)

Periodic Monitoring for Requirement #41

44. The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Director, Piedmont Region. These records shall include, but are not limited to:

    a. The yearly production of ethyl cellulose, calculated monthly as the sum of each consecutive 12 month period.

    b. The annual VOC and particulate emissions from the equipment specified in Condition #39, calculated monthly as the sum of each consecutive 12 month period, and any emission factors, material throughputs and/or material balance calculations used in calculating the VOC emissions.

    c. The maximum hourly particulate and VOC emissions, as applicable, from the emission units listed in Condition #39, calculated at the end of each month for that month, and any emission factors, material throughputs and/or 6-month rolling average material balance calculations used in calculating these emissions.

    d. The results of the monthly visible emission surveys of the equipment required by Condition #43 and details of any corrective action taken as a result of these inspections.

    e. Monthly VOC inventory and throughput records which demonstrate compliance with Conditions #39 and #40, including but not limited to:

        (1) inventory records, purchase records and cost sheets which show changes in inventory;

        (2) cumulative records of solvent throughput as specified in Condition #40;

        (3) wastewater sampling and flow management data;

        (4) derivation loss correlation data;

        (5) product residual data; and

        (6) calculations used to determine VOC emissions and VOC control efficiency in accordance with Conditions #39 and #40 of this permit.

    These records shall be available for inspection by the DEQ and shall be current for the most recent five (5) years.

(Condition E.14 of 7/12/96 RACT Agreement and 9 VAC 5-80-110 E of State Regulations)

Periodic Monitoring for Requirements #38-#41

45. The permittee shall report the results of any 40 CFR Part 60 method 9 opacity test performed as a result of Condition #43 above. If the test indicates the facility is out of compliance with the standard

contained in Condition #41, the source shall also report the length of time associated with any exceedance of the standard and the corrective actions taken to correct the exceedance. This report shall be sent to the Director, Piedmont Regional Office within seven days of the applicable test unless otherwise noted in Section XII, Condition E.

(9 VAC 5-20-110, 9 VAC 5-50-50 and 9 VAC 5-80-110 E of State Regulations)

Periodic Monitoring for Requirement #41

I. MCA Applicable Requirements – the source of the requirement appears in parentheses after the requirement (along with a generic Title V regulatory reference)

46. Volatile Organic Compound emissions from the MCA process area shall be controlled by solvent recovery and process scrubbers, and shall not exceed 15 tons per year. Compliance with this emission limit shall be demonstrated by annual reporting of VOC emissions.

(Condition E.7 of 7/12/96 RACT Agreement and 9 VAC 5-80-110)

47. The MCA Process Area is subject to and will comply with the Leak Detection and Repair Requirements of 40 CFR 63 Subpart H, including the provisions of 40 CFR:

63.162 – Standards: General
63.163 – Standards: Pumps in light liquid service
63.165 – Standards: Pressure relief devices in gas/vapor service
63.166 – Standards: Sampling Connection systems
63.167 – Standards: Open-ended valves or lines
63.168 – Standards: Valves in gas/vapor service and in light liquid service
63.169 – Standards: Pumps, valves, connectors, and agitators in heavy liquid service; instrumentation systems; and pressure relief devices in liquid service
63.171 – Standards: Delay of repair
63.174 – Standards: Connectors in gas/vapor service and in light liquid service
63.180 – Test methods and procedures
63.181 – Recordkeeping requirements
63.182 – Reporting requirements

(9 VAC 5-80-110 and 40 CFR 63 Subpart H)

J. MCA Periodic Monitoring

General Periodic Monitoring Notes:
The EPA periodic monitoring guidance, dated September 18, 1998, indicates on page 4 that periodic monitoring is required for each emission point at a source, subject to Title V of the Act, that is subject to an applicable requirement. :

For all actual monitoring (i.e. opacity checks, monthly/annual inspections, etc.), records shall be kept to verify the occurrence and results of the monitoring. In addition, the source shall submit to the DEQ reports of any opacity observations which reveal visible emissions in excess of an applicable standard.

The applicable periodic monitoring for the MCA process area is defined as follows (the source of the monitoring appears in parentheses after the requirement along with a Title V periodic monitoring regulatory reference)(also, the condition/requirement numbers may not always match those of the Title V permit itself):

48. The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Director, Piedmont Region. These records shall include, but are not limited to:

    a. annual VOC emissions from the MCA Process Area, calculated monthly as the sum of each consecutive 12 month period, and any emission factors, material throughputs and/or material balance calculations used in calculating the VOC emissions.

    b. An analysis demonstrating the design and actual annual throughput of the MCA mobile transfer rack, updated annually.

    c. An analysis documenting the weight percent organic HAPs in the liquid loaded into the MCA mobile transfer rack, updated annually.

    e. Documentation of the organic HAPs (by compound) that are transferred into the MCA mobile transfer rack, updated annually.

    (Condition E.14 of 7/12/96 RACT Agreement, 9 VAC 5-80-110 E and 40 CFR 63.130(f))

Periodic Monitoring for Requirement #46

K. Technical Facility Applicable Requirements – the source of the requirement appears in parentheses after the requirement (along with a generic Title V regulatory reference)

49. Volatile Organic Compound emissions from the Technical facility process area shall be controlled by solvent recovery and process scrubbers, and shall not exceed 15 tons per year. Compliance with this emission limit shall be demonstrated by annual reporting of VOC emissions.

(Condition E.8 of 7/12/96 RACT Agreement and 9 VAC 5-80-110)

L. Technical Facility Periodic Monitoring

General Periodic Monitoring Notes:

The EPA periodic monitoring guidance, dated September 18, 1998, indicates on page 4 that periodic monitoring is required for each emission point at a source, subject to Title V of the Act, that is subject to an applicable requirement. :

For all actual monitoring (i.e. opacity checks, monthly/annual inspections, etc.), records shall be kept to verify the occurrence and results of the monitoring. In addition, the source shall submit to the DEQ reports of any opacity observations which reveal visible emissions in excess of an applicable standard.

The applicable periodic monitoring for the Technical Facility process area is defined as follows (the source of the monitoring appears in parentheses after the requirement along with a Title V periodic monitoring regulatory reference)(also, the condition/requirement numbers may not always match those of the Title V permit itself):

50. The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Director, Piedmont Region. These records shall include, but are not limited to:

    a. annual VOC emissions from the Technical Facility, calculated monthly as the sum of each consecutive 12 month period, and any emission factors, material throughputs and/or material balance calculations used in calculating the VOC emissions.

(Condition E.14 of 7/12/96 RACT Agreement and 9 VAC 5-80-110 E)

Periodic Monitoring for Requirement #49

M. Storage Tank Applicable Requirements – the source of the requirement appears in parentheses after the requirement (along with a generic Title V regulatory reference)

51. The storage tanks listed in the table below are subject to the conditions of this sections as specified:

AREA	Tank ID#	Subject to Condition #52	Subject to Condition #53	Subject to Condition #55.d.
CMC	CM-TNK-413	x	x	
CMC	CM-TNK-414	x	x	
CMC	CM-TNK-416	x	x	
CMC	CM-TNK-408	x	x	x
CMC	CM-TNK-418	x		
CMC	CM-TNK-420	x	x	
CMC	CM-TNK-407	x	x	
CMC	CM-TNK-411	x		
CMC	CM-TNK-409	x	x	
CMC	CM-TNK-410	x		
CMC	CM-TNK-422	x	x	
CMC	CM-TNK-423	x	x	
CMC	T-1	x	x	
CMC	T-2	x	x	
CMC	CM-TNK-417	x		
CMC	CM-TNK-419	x		
CMC	CM-TNK-415	x		
CMC	CM-TNK-412	x		
Natrosol	NA-TNK-341	x	x	
Natrosol	NA-TNK-347	x		

Natrosol	NA-TNK-342	x	x	
Natrosol	NA-TNK-343	x	x	
Natrosol	NA-TNK-330	x	x	
Klucel	KL-TNK-306	x		
Klucel	KL-TNK-322	x		x
Klucel	KL-TNK-309	x	x	
Klucel	KL-TNK-308	x		
Klucel	KL-TNK-307	x		
Klucel	KL-TNK-337	x		
Klucel	KL-TNK-363	x		
EC	EC-TNK-315	x		
EC	EC-TNK-322	x		
EC	EC-TNK-324	x		
EC	EC-TNK-325	x		x
EC	EC-TNK-326	x		
EC	EC-TNK-327	x		
EC	EC-TNK-321	x		
EC	EC-TNK-328	x		
EC	EC-TNK-310	x		
TechFac	TF-TNK-514	x		
TechFac	TF-TNK-515	x		
TechFac	TF-TNK-516	x		
TechFac	TF-TNK-540	x		
TechFac	TF-TNK-550	x		
TechFac	TF-TNK-560	x		
TechFac	TF-TNK-570	x		

(9 VAC 5-80-110)

52. Each storage tank indicated in Condition #51 shall be equipped with a control method that will remove, destroy or prevent the discharge into the atmosphere of at least 60% by weight of VOC emissions during the filling of such tank. The use of a submerged fill pipe shall be considered acceptable achievement of this standard.
(9 VAC 5-40-3430 B, 9 VAC 5-40-3440 B and 9 VAC 5-80-110)

53. Each storage tank indicated in Condition #51 shall be equipped with a control method that will remove, destroy or prevent the discharge into the atmosphere of at least 90% by weight of VOC emissions.
(9 VAC 5-40-3430 B, 9 VAC 5-40-3440 B and 9 VAC 5-80-110)

N. Storage Tank Periodic Monitoring

General Periodic Monitoring Notes:
The EPA periodic monitoring guidance, dated September 18, 1998, indicates on page 4 that periodic monitoring is required for each emission point at a source, subject to Title V of the Act, that is subject to an applicable requirement. :

For all actual monitoring (i.e. opacity checks, monthly/annual inspections, etc.), records shall be kept to verify the occurrence and results of the monitoring. In addition, the source shall submit to the DEQ reports of any opacity observations which reveal visible emissions in excess of an applicable standard.

The applicable periodic monitoring for the Storage Tank group is defined as follows (the source of the monitoring appears in parentheses after the requirement along with a Title V periodic monitoring regulatory reference)(also, the condition/requirement numbers may not always match those of the Title V permit itself):

54. A monthly inspection shall be conducted on each control device (including, but not limited to, the CMC Field Tank Vent Scrubber (CM-ACD-406), the Natrosol EO/PO and Solvent Vent Scrubbers (NA-ACD-301 and NA-ACE-101) and the Klucel Process Vent Scrubber (KL-ACD-301)) used to achieve compliance with condition #53 for any storage tank so indicated in condition #51. The inspection shall include both the structural integrity and the operating parameters of each control device. The permittee shall maintain records of the results of the monthly inspections and details of any corrective actions taken as a result of these inspections. These records shall be available on site for inspection by the DEQ and shall be current for the most recent five years.
(9 VAC 5-80-110 E)

Periodic Monitoring for Requirement #53

55. The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Director, Piedmont Region. These records shall include, but are not limited to:

    a. certification of submerged fill pipe for each storage tank subject to Condition #52

    b. Certification/demonstration that each control device used to achieve compliance with Condition #53 is capable of achieving 90% VOC control efficiency as well as the appropriate operating range for each operating parameter necessary to demonstrate that each control device is continuing to meet or exceed the 90% VOC control efficiency requirement

    c. Records of monthly tank inspections required by Condition #54.

    d. For each storage tank indicated in Condition #51, the dimensions of each storage tank and an analysis showing the capacity of the storage tank.

(9 VAC 5-80-110 E; 40 CFR 63.123(a) and 40 CFR 60.116b)

Periodic Monitoring for Requirements #51, #52 and #53

FACILITY WIDE REQUIREMENTS

Certain conditions within existing NSR permits may be applicable to all newly constructed or modified equipment that receive a permit. These conditions are being retained in the Title V permit because 1) they are applicable requirements generally applied to all modified and newly constructed equipment permitted through the minor NSR permit program; 2) they have an impact on the prevention of excess emissions and therefore are not environmentally insignificant; and 3) they require recordkeeping and reporting that may be included in periodic monitoring requirements. Below is a listing of these conditions from the 1984, 1996, 1998 and 2003 NSR permits:

Condition #16 of 6/1996 Natrosol permit, Condition #17 of 8/1998 Klucel permit and Condition #24 of 2/2003 CMC permit:

In order to minimize the duration and frequency of excess emissions due to malfunctions of process equipment or air pollution control equipment, the permittee shall:

1. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance. These records shall be maintained on site for a period of five (5) years and shall be made available to DEQ personnel upon request.

2. Maintain an inventory of spare parts that are needed to minimize durations of air pollution control equipment breakdowns.

(9 VAC 5-170-160 of State Regulations)

This condition will therefore be included in the Facility-wide requirement section of the Title V permit with the statement added that requirement applies only to the CMC, Klucel and Natrosol process areas.

Condition #17 of 6/1996 Natrosol permit, Condition #18 of 8/1998 Klucel permit, Condition #24 of 2/2003 CMC permit:

The permittee shall have available written operating procedures for the related air pollution control equipment. Operators shall be trained in the proper operation of all such equipment and shall be familiar with the written operating procedures. These procedures shall be based on the manufacturer's recommendations, at minimum. The permittee shall maintain records of training provided including names of trainees, date of training and nature of training.
(9 VAC 5-170-160 of State Regulations)

This condition will therefore be included in the Facility-wide requirement section of the Title V permit with the statement added that requirement applies only to the CMC, Klucel and Natrosol process areas.

Obsolete Requirements

Certain conditions of the 1984, 1996, 1998 and 2003 NSR permits for the source are obsolete, no longer serve any meaningful purpose, and/or are unnecessary for Title V considerations (primarily because they contain no applicable requirements). Therefore, these conditions do not appear in the Title V permit.

1984 EC permit

Conditions #6, #7, #8, #10 and #11 contain one-time testing and notification requirements or a permit invalidation clause based upon the construction schedule of the permitted equipment. As this conditions have already been performed and the subject equipment constructed, they are obsolete for Title V purposes.

Conditions #4, #5, #9 and a portion of Condition #3 relate to equipment that have been entirely/physically removed from the facility. As such, these conditions are obsolete for Title V purposes.

Condition #12 relates to local zoning issues and is environmentally insignificant.

1996 Natrosol permit

Conditions #1 and #2 contain general descriptive information which are not requirements and will therefore not be included in the Title V permit.

Conditions #11 and #18 contain one-time testing and/or notification requirements and/or a permit invalidation clause based upon the construction schedule of the permitted equipment. As this conditions have already been performed and the subject equipment constructed, they are obsolete for Title V purposes.

Condition #19 is not being included as an applicable requirement in the Title V permit because it is redundant. Condition T in the General Permit Condition Section of the Title V permit describes the requirements for transfer of ownership relative to the Title V permit. The transfer of ownership requirements for the NSR permit are therefore inappropriate for inclusion in the Title V permit.

Condition #13 describes VA's power to modify, rescind, reissue the permit under certain circumstances which can be considered extraneous to the Title V permit. The assumption underlying this determination is that if an NSR permit is revoked or modified through unsolicited action by DEQ, the Title V permit will be changed in a separate and independent action from the NSR change. The Title V permit will change to reflect the changes in applicable requirements brought about by the NSR change.

Condition #14 is not being included as an applicable requirement in the Title V permit because it is out-dated. The Part 70 regulations define specific inspection and entry requirements consistent with the issuance of a TITLE V permit. These requirements are described in Condition Q in the General Permit Condition Section of the Title V permit and are at least as stringent as the NSR requirements. Inclusion of this condition would be redundant and the requirements have been overtaken by the Title V (Part 70) regulations.

Condition #15 is not being included as an applicable requirement in the Title V permit because similar provisions are included in the Conditions E and F in the General Permit Condition Section of the Title V permit and are included as part of the malfunction reporting requirements for the overall permit. Including these conditions as a separate enforceable condition on the permitted equipment in addition to the entire listing of equipment covered by the TITLE V permit creates a situation where conditions are both redundant and confusing.

Conditions #20 and #21 will not be included in the Title V permit because they contain no specific requirements, are environmentally insignificant or made redundant by General Condition S of the Title V permit.

Condition #5 will not be included in the Title V permit because the testing port provisions it contains are made redundant by Condition #71 (Facility-Wide Section) of the Title V permit.

Condition #10: the VOC emission credits referenced by this condition have expired. As such, this condition is obsolete and will not be included in the Title V permit.

<u>1998 Klucel permit</u>
Conditions #1 and #2 contain general descriptive information which are not requirements and will therefore not be included in the Title V permit.

Conditions #12 and #19 contain one-time testing and/or notification requirements and/or a permit invalidation clause based upon the construction schedule of the permitted equipment. As this conditions have already been performed and the subject equipment constructed, they are obsolete for Title V purposes.

Condition #20 is not being included as an applicable requirement in the Title V permit because it is redundant. Condition T in the General Permit Condition Section of the Title V permit describes the requirements for transfer of ownership relative to the Title V permit. The transfer of ownership requirements for the NSR permit are therefore inappropriate for inclusion in the Title V permit.

Condition #14 describes VA's power to modify, rescind, reissue the permit under certain circumstances which can be considered extraneous to the Title V permit. The assumption underlying this determination is that if an NSR permit is revoked or modified through unsolicited action by DEQ, the Title V permit will be changed in a separate and independent action from the NSR change. The Title V permit will change to reflect the changes in applicable requirements brought about by the NSR change.

Condition #15 is not being included as an applicable requirement in the Title V permit because it is out-dated. The Part 70 regulations define specific inspection and entry requirements consistent with the issuance of a TITLE V permit. These requirements are described in Condition Q in the General Permit Condition Section of the Title V permit and are at least as stringent as the NSR requirements. Inclusion of this condition would be redundant and the requirements have been overtaken by the Title V (Part 70) regulations.

Condition #16 is not being included as an applicable requirement in the Title V permit because similar provisions are included in the Conditions E and F in the General Permit Condition Section of the Title V permit and are included as part of the malfunction reporting requirements for the overall permit. Including these conditions as a separate enforceable condition on the permitted equipment in addition to the entire listing of equipment covered by the TITLE V permit creates a situation where conditions are both redundant and confusing.

Conditions #21 and #22 will not be included in the Title V permit because they contain no specific requirements, are environmentally insignificant or made redundant by General Condition S of the Title V permit.

Condition #6 will not be included in the Title V permit because the testing port provisions it contains are made redundant by Condition #71 (Facility-Wide Section) of the Title V permit.

2/2003 CMC permit

Conditions #1 and #2 contain general descriptive information which are not requirements and will therefore not be included in the Title V permit.

Conditions #10 and #26 contain one-time testing and/or notification requirements and/or a permit invalidation clause based upon the construction schedule of the permitted equipment. As this conditions have already been performed and the subject equipment constructed, they are obsolete for Title V purposes.

Condition #27 is not being included as an applicable requirement in the Title V permit because it is redundant. Condition T in the General Permit Condition Section of the Title V permit describes the requirements for transfer of ownership relative to the Title V permit. The transfer of ownership requirements for the NSR permit are therefore inappropriate for inclusion in the Title V permit.

Condition #25 describes VA's power to modify, rescind, reissue the permit under certain circumstances which can be considered extraneous to the Title V permit. The assumption underlying this determination is that if an NSR permit is revoked or modified through unsolicited action by DEQ, the Title V permit will be changed in a separate and independent action from the NSR change. The Title V permit will change to reflect the changes in applicable requirements brought about by the NSR change.

Condition #22 is not being included as an applicable requirement in the Title V permit because it is out-dated. The Part 70 regulations define specific inspection and entry requirements consistent with the issuance of a TITLE V permit. These requirements are described in Condition Q in the General Permit Condition Section of the Title V permit and are at least as stringent as the NSR requirements. Inclusion of this condition would be redundant and the requirements have been overtaken by the Title V (Part 70) regulations.

Conditions #11, #12 and #14 are not being included as applicable requirements in the Title V permit because similar provisions are included in the Conditions E and F in the General Permit Condition Section of the Title V permit and are included as part of the malfunction reporting requirements for the overall permit. Including these conditions as a separate enforceable condition on the permitted

equipment in addition to the entire listing of equipment covered by the TITLE V permit creates a situation where conditions are both redundant and confusing.

Conditions #23, #28 and #29 will not be included in the Title V permit because they contain no specific requirements, are environmentally insignificant or made redundant by General Condition S of the Title V permit.

Condition #5 will not be included in the Title V permit because the testing port provisions it contains are made redundant by Condition #58 (Facility-Wide Section) of the Title V permit.

Streamlined Requirements

No streamlined requirements have been identified.

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110, that apply to all Federal operating permit sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions, including those caused by upsets, within one business day.

Comments on General Conditions

B. Permit Expiration

This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by ' 2.1-20.01:2 and ' 10.1-1185 of the *Code of Virginia*, and the "Department of Environmental Quality Agency Policy Statement NO. 3-2001".

This general conditions cites the entire Article(s) that follow:
B.2. Article 1 (9 VAC 5-80-50 et seq.), Part II of 9 VAC 5 Chapter 80. Federal Permits for Stationary Sources
B.3. Article 1 (9 VAC 5-80-50 et seq.), Part II of 9 VAC 5 Chapter 80. Federal Permits for Stationary Sources

This general condition cites the sections that follow:
B. 9 VAC 5-80-80. "Application"
B.2. 9 VAC 5-80-150. "Action on Permit Applications"
B.3. 9 VAC 5-80-80. "Application"
B.4. 9 VAC 5-80-80. "Application"
B.4. 9 VAC 5-80-140. "Permit Shield"
B.5. 9 VAC 5-80-80. "Application"

F. Failure/Malfunction Reporting

Section 9 VAC 5-20-180 requires malfunction and excesses emissions reporting within 4 hours. Section 9 VAC 5-80-250 also requires malfunction reporting; however, reporting is required within 2 days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to this section including Title 5 facilities. Section 9 VAC 5-80-250 is from the Title 5 regulations. Title 5 facilities are subject to both Sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report must be made within 4 day time business hours of the malfunction.

Please note there are proposed regulation changes that could affect this condition. The requirement listed in section 9 VAC 5-20-180 to report excesses emissions within 4 business hours may be changed to require reporting of excess emissions within 6 hours.

This general condition cites the sections that follow:

F. 9 VAC 5-40-50. Notification, Records and Reporting
F. 9 VAC 5-50-50. Notification, Records and Reporting

U. Failure/Malfunction Reporting

The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in section 9 VAC 5-80-250 and 9 VAC 5-20-180. The malfunction requirements are listed in General Condition U and General Condition F. For further explanation see the comments on general condition F.

This general condition cites the sections that follow:

U.2.d. 9 VAC 5-80-110. Permit Content
U.2.d. 9 VAC 5-20-180. Facility and Control Equipment Maintenance or Malfunction

STATE ONLY APPLICABLE REQUIREMENTS

No State-Only requirements were identified.

FUTURE APPLICABLE REQUIREMENTS

This source may become subject to the secondary metal aluminum processing MACT upon finalization of the currently proposed regulation.

INAPPLICABLE REQUIREMENTS

No inapplicable requirements identified.

INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping, or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

Insignificant emission units include the following:

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
N/A	Eight Lubricant/used-oil storage tanks	9 VAC 5-80-270 C		275 gallon each

CONFIDENTIAL INFORMATION

The permittee did submit confidential and non-confidential version of their Title V application. The DEQ approved the basis of confidentiality for the confidential version. However, as the confidential information consisted of only diagrams and schematics, it was unnecessary to create two versions of the actual Title V permit. There is only one version of the Title V permit (and Statement of Basis), and it does NOT contain any confidential information.

PUBLIC PARTICIPATION

The draft permit went to public notice in the Richmond Times-Dispatch on April 27, 2003. The 30-day comment period specified in the public notice runs from April 27, 2003 until May 27, 2003.

On May 27, 2003, DEQ received letters from providing comment on the draft permit from nine private citizens of Hopewell and from the Sierra Club. The nine letters from the private citizens were identical and requested that DEQ hold a public hearing on the Hercules draft Title V permit. The stated reason for the requests was the exclusion of state-only enforceable toxic pollutant limitations contained in Hercules' various minor new source review permits from the draft Title V permit. The letter from the Sierra Club raised similar concerns and also request that DEQ conduct a public hearing. All ten letters are included as attachments to this document.

On June 27, 2003, DEQ responded in writing to each commentor. In its response letter, DEQ informed the commentors of its decision to decline their request for a public hearing. The basis for this decision was the fact that DEQ is legally incapable of including applicable requirements in Title V permits unless they are federal applicable requirements. Since the toxic pollutant requirements in question are not federal applicable requirements, no amount of comments or discussion will ever allow DEQ to legally include such requirements in a Title V permit. DEQ's response letter is also included as an attachment to this document.